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Established 1859 Pioneer of the Gas Industry

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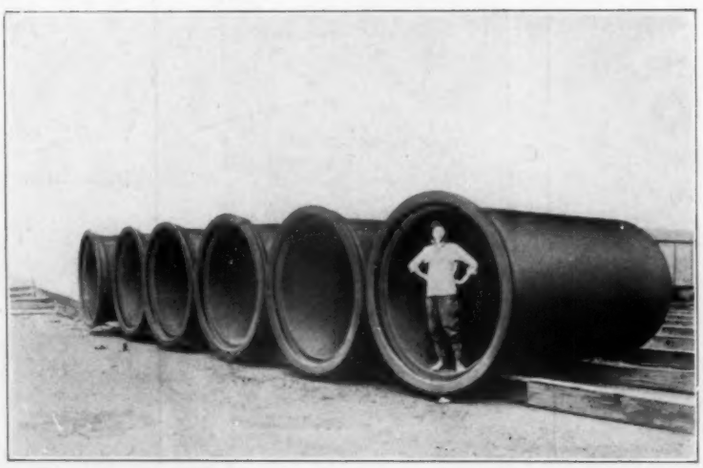
72" Pipe for Astoria Tunnel



THE employment of *cast iron pipe for gas supply* and distribution is second in importance only to its use for *carrying water,* and its adoption dates from the very inception of the industry, both in this country and in Europe.

AS is well known, *cast iron gas pipe* is laid uncoated in the great majority of cases, and the many instances of its *long life* are, therefore, of special interest, since they prove conclusively that, *against corrosion* or other factors causing deterioration, cast iron possesses *a power of resistance* inherent in the material itself and not dependent solely upon the addition of coatings or other artificial aids.

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Dallas, Scollard Bldg.

Minneapolis, Plymouth Bldg.
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What Is Wanted—
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It is obvious that what people want they are eager to buy. The fact that over One Hundred Thousand FRANKLIN QUICK REMOVABLE GAS BURNERS are in use in various parts of the country clearly demonstrates the FRANKLIN has met all their requirements for an economical, convenient, labor-saving, cleanly system for comfortably heating their houses.

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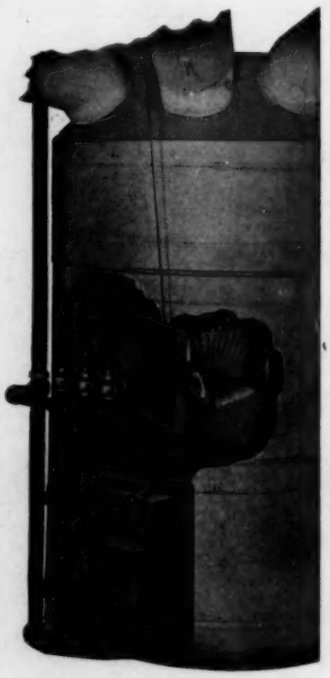

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No. 3
System with Thermo Valve and By-Pass

Economy and perfect combustion are obtainable under any and all conditions without any air mixer regulator, as varying gas pressure will not affect the burner or cause it to backfire in the mixer, or go out under low pressure.

Gas companies who give a practical demonstration and outline the salient features of the FRANKLIN BURNER to their customers are building up a vast amount of goodwill, besides making a substantial profit from selling the appliance, and from the increased volume of sendout. Write for complete details.

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SIXTY-SIXTH YEAR

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"MEMBER OF THE AUDIT BUREAU OF CIRCULATIONS"

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AMERICAN
GAS JOURNAL

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Humanizing the Gas Industry*

How it is done by one company through employees' activities

Geo. H. Wilmarth

Division Manager, Northern States Power Company, Eau Claire, Wis.

EMPLOYEES' Activities and Organizations is a subject that has appealed to me for many years because it touches the human side of business. In my earlier experiences as a workman, I recall how appreciative I was of this human contact not only with my fellow workers but with my superiors. Perhaps because of those memories it has been both easy and natural for me to promote and encourage the thought among all the employees who might come under my direction, that we are one big family working in a co-ordinative way toward one end,—that of service.

Employees' Activities and Organizations, properly directed, create a perfect medium for the development of this thought into actual practice, and I take issue with those who still believe that they are a sentimental interference to the process of collecting dollars—a subject that belongs to the dreamers, and have no place in modern business.

Humanizing the Industry

This humanizing of industry is not an idle dream, but is a sound economic principle. Permit me to quote from what our company employees are pleased to call their code of ethics:

"Treat your customers as human beings, realizing that mutual good faith and tolerance form the only basis of successful commerce between man and man."

Substitute the word "employees" for "customers" and the principle is equally sound.

The knowledge that industry is human and its practical application to Employees' Organizations and Activities for the workers' welfare is growing and taking place as rapidly as the old principle of "The Public Be Damned" is being replaced by the modern slogan of true public service, "The Public Be Served and Informed."

Much to Be Said on Subject

There is much to be said on this subject of Employees' Organizations and Activities, and many angles of approach. It is natural that I should view the problem through the eyes of my own experiences and it may be interesting not only to present the arguments for their existence, but to furnish proof of their economic and social value in the business world by citing some few specific examples drawn from our experience in the Wisconsin Division of the Northern States Power Company.

The human worker is largely a creature of impressions, and as a result, the impressions that the worker gets of the spirit of the company by whom he is employed largely determines, first, how he performs that duty which has been assigned to him; second, the kind of organization he reflects in contact with the public; and, third, the attitude and feeling he carries with him away from his work and passes on to his own group of social acquaintances.

Best results are always achieved in doing the work we enjoy, and we usually enjoy doing the things that are carried on in an atmosphere of good fellowship, and where the things we accomplish are rewarded by the feeling that we are giving an appreciated service to a personal, human organization.

It is evidently impossible for the chief executives of large organizations to personally meet and talk with each employee,—to personally make him feel at home as one of the family,—to personally take him aside and "sell" him the firm and instruct him in the policies of the company.

"Selling the Employee the Firm"

All these things can be done, however, by the right kind of properly guided employees' organizations.

*Read before the Wisconsin Public Utilities Association Convention, Stevens Point, Wisconsin, Thursday, February 26, 1925.

That is the purpose of and the necessity for all employees' activities. They should be the medium through which is reflected the personality of the executives, and the spirit of the company of which they are a part. They should create and promote that fellowship of interest among employees and employers which brings tangible return in more production and better service.

In modern industry, mechanical friction has been reduced to a minimum. Bearings run in a bath of oil, noiselessly and with scarcely any wear. Human friction in business has not been so successfully eliminated. The same careful thought should be given to the human problems as to the mechanical.

(Insert) A Basketball Team Composed of Gas Employees of the "Fair Sex"

(Below) The Orchestra of the Northern States Power Co.

Fellowship is one of the best lubricants for human friction. It is a compounded lubricant and some of its principal ingredients are,—the ability to put yourself in the place of your fellow workers; visualize their problems as they see them; feel as they feel; and follow their line of thought sympathetically rather than with stubborn antagonism.

The Importance of Fellowship

Fellowship, when cultivated, will prevent many of the misunderstandings which create friction, causing workers to waste their energies, with consequent loss in public confidence resulting from the lowered standard of service.

As a medium through which fellowship may be developed, Employees' Organizations and Activities stand paramount.

The best minds of the industry today are concentrated on the problems of public relations. We say and hear a lot about it, but too frequently we overlook the employees as an important factor. They are the chief points of contact between the company and the customers, and to most of our customers they are the company. The company is judged by what they say and do. It is obvious that this judgment will be most advantageous to the company if the employees are not only enthusiastically loyal, but are also well informed as to the company's business and policies.

The "Labor Turn-over" Problem

One of the problems of American business is excessive "turn-over" of labor. Finding, employing and training new workers to take the place of those who leave is tremendously expensive. It cuts into the smooth-running routine, which should be a part of every successful organization, and makes it impossible to give the maximum of good service. This turn-over may be reduced in direct proportion to the interest the company executives hold toward employees and organizations and activities.

When employees believe that neither the highest executives, their immediate superiors, or their fellow workmen know little of and care less about them, they are bound to become discontented and seek more congenial and friendly surroundings.

You have seen many a gnarled, twisted oak on a rocky hillside, not very beautiful in outline, but doing its best to reach upward. Its development is slow and not perceptible from day to day, but nevertheless the development is there, encouraged by the little nourishment from the rocky soil and sunshine overhead. Workers, too, have a natural urge

(Continued on page 319)

Simplified Customers' Accounting *

A discussion of the advantages of "bookkeeping without books"

Stanley P. Farwell

Vice-president and Director, Business Research Corporation, Chicago, Illinois

THE man who coined the term "Bookkeeping Without Books" created a clever slogan which has been in daily use for the last five years. The responsibility for this term lies with the Consolidated Gas, Electric Light & Power Company of Baltimore, which company put into eyect during and following the war a system of bookkeeping which did away with the old-fashioned ledger record and substituted in its place an extra stub of the bill.

Analyzed, the term "bookkeeping without books" means simply bookkeeping without the old-fashioned ledgers. It has been a useful term in that it has called attention to a system which is a great improvement over the old, but, on the other hand, it has apparently had a bad effect in creating in the minds of some executives of the conservative type the thought that they were really giving up something. They believed that under the simplified system they were to be deprived of some important information which they had had in the past. They were so accustomed to the old methods that the simplified system looked radical. The number of companies adopting the system with success in the last two or three years, however, has been effective in breaking down much of this feeling of skepticism.

But what are we giving up under the new system? In the opinion of those who are using it, the only thing they are giving up is a lot of hard, useless work. The records may not be so compact, but the information is all there to be had when it is needed. Therefore, we want to suggest that we do away with the term "Bookkeeping Without Books," believing that it has served its purpose, and adopt the term "Simplified Customers' Accounting."

What Is This Simplified System?

Simplified customers' accounting had its beginning in war time, when economy was essential. The original plan provided for an extra stub on the bill, which showed the customer's name and address, the previous past due amounts, if any, and the amount of the current bill. Bills were prepared by the old-fashioned Burroughs biller and by rubber stamps. The stubs were filed. In the meantime the cashier's stubs representing payments were held until the end of the discount period and then these payments, approximating 70 per cent of the total, were "posted" by the process of matching. These matched records were then removed from the current files and placed in the file. The balance constituting the record of delinquent customers, were sewed together to form a little book, which became a ledger. Delinquent payments were posted by pen, and at the end of the month amounts still outstanding were posted to the next month's bills.

These were the basic fundamentals of the new system, but they have since been developed in a dozen ways so that now there are numerous systems such as the stub system, the register system, the ditto system, etc.

The Stub Plan

The stub plan is perhaps the most widely in use. Every installation is a variation, to a greater or lesser degree, of the original plan. In some instances the bookkeeping stub is on the right of the bill and in some cases on the left. In some cases only the past due amounts as one lump sum and the current charges are entered on the stub, whereas in other cases the past due amounts are shown by months and meter rates and consumption are shown. Formerly, in order to emphasize the thought that the company was really doing the bookkeeping without books, these stubs were called "office records." Recently they have been called "ledger records." It is interesting to note that when a ledger record, as now called, includes meter readings, consumption, present billing charges, and the past due amounts by months. It provides a record which approximates the chronological ledger which it was thought five years ago was being dispensed with.

The Register Sheet Plan

The register sheet system makes use of the register sheet as a medium for both debit and credit postings. The bill is prepared by billing machine, which performs all operations except addressograph operations. The register sheet is prepared at the same time by carbon porcess. Thus, as each bill is typed, it makes a complete record on the register sheet. Twenty such entries are made on each sheet.

This copy of the bill is the debit entry. On the right of the sheet space is provided for the posting of payments, and for the entry of delinquent items, etc. Opposite each account is an impression of the appropriate addressograph plate, thus providing a complete record of billing for the month. Delinquent amounts are carried forward from the previous month's register sheet. Cash is posted either daily or at the end of the discount period, depending upon the wishes of the company.

(Continued on page 321)

*Presented before the joint convention of Illinois Gas Association (21st annual meeting).

Gas Meters *

Their handling, care and installation

F. W. Sargent

Supt. of Distribution, Citizens Gas Company, Indian apolis, Indiana

THE relations of the gas meter to the customer and the company alike must be seriously recognized by the employee before the best of results can be obtained in handling, care and installing of the meter. This meter is the only medium between the customer and company that is always evident to the customer. It functions as a measure of gas consumption, yielding figures on which the customer's bill is computed. Silent in make-up, neat in appearance, and in proper condition and place, it will go a long way towards winning the confidence of the customer. This old "Mysterious Tin Box," so often railed at by the customer, in case of a dispute in the gas bill (we would probably make the same remark if we were not confident of its qualifications) can gain the confidence of the customer, if we use good care in its handling and installation.

The Meter Wins Confidence

While this confidence will not be immediate, it will be gained by the meter's continuous good service. We do not fear contradiction, when we class the gas meter as the most important unit of mechanism in all the work of gas distribution. Its direct telltale on the gas earnings of the company, together with its connection with the social relations on which the company hopes to build and hold the good-will of the customer pronounce it all-important. Then if we will realize these characteristics of our silent co-worker, they will lead us to giving the gas meter our best efforts, in good care and proper attention, at all times. Then we will have acquired our purpose of GOOD CONTINUOUS SERVICE.

The Meter Is Accurate.

We know that the gas meter is accurate and with careful handling it will remain accurate. The possibilities of harm are ever present while handling a meter, so every precaution should be taken in practice to avoid damage. If a meter is dropped or injured in any manner it should be so marked and returned immediately to the meter repair shop for examination and test. Employ the best method of transportation from stock to installation and have the meters securely and firmly fastened. If meter racks are not used, then use properly padded bags, or better still, the cartons in which the new meters have been shipped to you, but have them firmly packed and never be in such a hurry that you cannot give the meter proper care in handling. Keep the meter clean; always cap the inlet and outlet tube screw when not in service. Always handle a meter in an upright position and never put a meter in service of whose condition you have the least doubt, especially a meter that has been carried around for a time.

Checking System

It is good practice to employ a checking system for handling meters, whereby you can check them through the meter repair shop, stock and installation, using a standard period of ninety days, or longer if you wish, as your records are permanent and can be traced any time. In using a period of ninety days, make a list of all meters removed within that time. Ascertain the cause for removal, classify, and, those meters that are removed for defective workmanship or carelessness in handling should be traced to the responsible employees. Communicate these facts to the employee and your trouble will be greatly reduced, if not eliminated at times. You will be more than repaid for the time spent in checking.

Testing New Meters

All new meters received should be tested before being placed in stock, both for record before entering service, and to avoid setting a meter that does not test O.K. We have found that while the meters stand up well in transit, there are some that do not test out O.K. We have had some shipments test as high as 100 per cent, but we test all meters just prior to entering service and no meter is ever reset without a final shop test.

There are several elements that enter into the proper setting of the gas meter. Whether it is a residence, apartment, factory, store, hotel, or club, there is always some difficulty in selecting a choice location that will answer all the requirements of good meter setting. Sometimes we find it extremely difficult to comply with all the prescribed conditions in setting a meter, but it is time well spent. It is not well to change the meter often, both from the viewpoint of expense and the effect it has on the customer.

Nature of Meter Location

The meter should be placed in such a location, while in service, that the surrounding temperature

(Continued on page 314)

*Presented at the Conference for Gas Metermen held at Purdue University, LaFayette, Indiana, February 23-24-25, 1925.

GAS MERCHANDISING

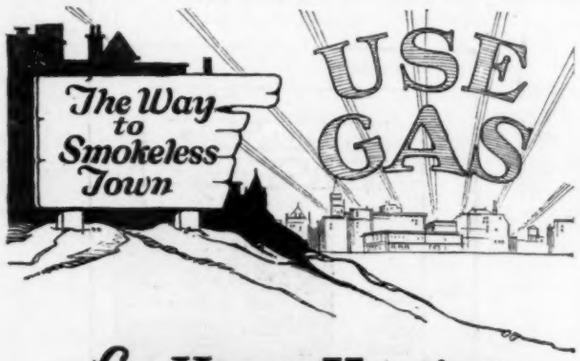
Domestic – Industrial

Ideas for the Man Who Sells

William H. Matlack

COUPON USED TO OBTAIN LEADS

THE Peoples Gas Light & Coke Company, Chicago, are using coupons in connection wtih their House Heating advertisements. This is a good way to get live leads for the salesmen to follow up. The Peoples Company is using some very good copy in these advertisements, one of which we are reproducing here. Note that this ad-



for House Heating

Hot Air—Steam—Vapor—Hot Water

Gas offers you all the advantages of efficient heating, plus cleanliness and convenience.

Even temperature—no noise—no motor—no dirt—no dust—no ashes—no fuel tie-ups. No midnight or early morning trips to the basement. No tanks or bin to fill. And you pay for gas after you use it.

Special Rate for House Heating

Get this important information today.

House Heating Division

The Peoples Gas Light and Coke Company

Michigan Avenue at Adams Street — Phone Wabash 6000

If it's done with heat,
YOU CAN DO IT BETTER WITH GAS

Send the coupon

The Peoples Gas Light and Coke Co.
122 South Michigan Ave., Chicago, Ill.
Attention: House Heating Division

I want to find out more about gas for house heating. Please send me full information and oblige.

I have a ____ room house (or) ____ apartment building.

Name _____

Address _____

Telephone _____

vertisement sells you the idea of heating with gas and brings you up to the point where you want to know "more about gas for house heating." Folks in the soft coal section are quick to seize upon any remedial measures that will promise of clean fuel and relief to their respiratory organs, which become so sooty during the winter months.

HOW TO SELL THE WOMAN

SEVERAL years ago we were connected with a concern that manufactured a household appliance, and in devising ways and means to market it an old-time house-to-house man was called in and consulted. He was told that the theme to be employed in the company's national advertising was to be built around the woman in the home and that, as a seasoned campaigner, his opinion was of value. "What appeal do you suggest that the company use?" he was asked. "Well," he replied, "I am not an advertising man, but I have sold women all over this broad land and, while I have delivered a lot of merchandise to them, I really believe that what I honestly sold them was what I call 'the stuff dreams are made of.' I sold them more leisure, fewer backaches, more time for movies—why, fellows, I sold women happiness."

There is a big thought. When you sell gas ranges and water heaters sell them, not as so much cast iron, or feet of copper coil, but aids to simplified housework, better homes and more contented home-managers.

A whole selling campaign may be built about Happiness in home work.

Try it. You have tried dainty copy and lay-out for the purpose of catching the feminine fancy. Now try dreamy copy- Show the woman how your appliances will help her. Make your copy romantic, if need be, and she will read and resolve to investigate at least, and then you can sell her, if your appliances perform.

HOUSE HEATING

WHENEVER gas men from different cities get together these days, it is safe to say that the conversation invariably turns toward House Heating—a very natural thing, when we consider the live interest there is in this phase of the business. Especially interesting is the conversation if one of the men is from a company which is actively in favor of house heating. Everybody seems to want to know how it is panning out—

how the load affects the load curves of the plant and distribution system; how the customer likes the service and its cost; how one goes about selling such an intangible thing as heating comforts; what kind of a rate can be offered for this class of business; and so on. In short, we deduce that everybody is interested in the sale of house heating, but nobody wants to undertake it until they are fully convinced, by the other fellow's experience, that they would be taking no chances.

IF?

IF you sell.

If you are responsible for sales.

If you are interested in sales, it is a good idea to have a sales idea book in a convenient place on your desk. This book should be of your own making. Make it up by clipping ideas from the magazines you read, from newspaper and trade paper articles. Fill it with notes regarding sales ideas that you secure from manufacturers' representatives, from conventions, from house organs and direct mail advertising sent out by manufacturers and by local retail dealers.

It is said the best-paid editorial writer in America, if not in the world, has a library composed of 20,000 volumes, and when he finds no idea in the day's news he turns to his books, with the result that he is never without ideas for editorials.

LAY OUT YOUR ADVERTISEMENTS

ALL advertisements should be laid out before sending them to your newspaper or to the printer. Take a pencil, ruler and a proof of the cut you intend to use, and, after deciding upon the space you intend to use, "play around with the cut" and get a lay-out made up before you send copy

and cut to the newspaper. The illustration below will give you an idea of what may be done with space as small as 4½ inches single column. Remember that your advertisement competes with dozens of other advertisements and hundreds of news items and if it is to go over it must stand out and flag your readers' attention.

INDUSTRIAL GAS LESSONS

IF IT'S DONE WITH HEAT — YOU CAN DO IT BETTER WITH GAS

Lesson No. 65

Heat and Change of State

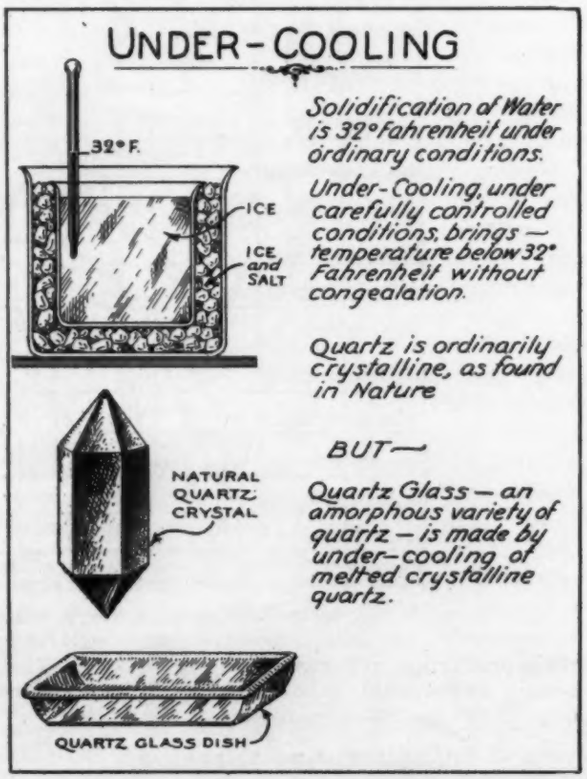
ANOTHER interesting table of melting points is taken from Kent's Mechanical Engineer's Pocket Book. This table shows the melting points of the fusible alloys.

	Melting Point in deg. F.
Sir Isaac Newton's alloy, bismuth 5, lead 3, tin 2	212
Rose's alloy, bismuth 2, lead 1, tin 1	200
Wood's metal, cadmium 1, bismuth 4, lead 3, tin 1	165
Guthrie's metal, cadmium 13.29, bismuth 47.38, lead 19.36, tin 19.97	160
Lead 1, tin 1, bismuth 1, cadmium 1	155
Lead 3, tin 5, bismuth 8	208
Lead 1, tin 3, bismuth 5	212
Lead 1, tin 4, bismuth 5	240
Tin 1, bismuth 1	286
Lead 2, tin 3	334 to 367
Tin 2, bismuth 1	336
Lead 1, tin 2	340 to 360
Tin 8, bismuth 1	392
Lead 2, tin 1	440 to 475
Lead 1, tin 1	370 to 400
Lead 1, tin 3	356 to 383
Tin 3, bismuth 1	392
Lead 1, bismuth 1	257
Lead 1, tin 1, bismuth 4	201
Lead 5, tin 3, bismuth 8	202
Tin 3, bismuth 5	202

The melting points which are given in the above tables have been determined with considerable accuracy by various investigators, but, as in all physical or chemical measurements, errors and differences occur, and the values given may be found to be quite different from other figures contained in other tables. Consequently the figures should be used, bearing this fact in mind. This condition applies particularly to substances which do not possess a crystalline structure and whose melting is therefore a gradual process instead of a clear defined change of state, from solid to liquid. In these cases the differences in the melting points are apt to be very marked as reported by various investigators.

Under-cooling

When water is cooled down to a temperature of zero degrees C or 32 degrees F., it freezes, that is, it is changed into ice, provided of course that the cooling effect is continued so as to remove the heat of fusion. This presupposes that the cooling is conducted under atmospheric conditions. On the other hand, when the cooling is conducted in a very careful manner, and all impurities or dust are prevented from coming in contact with the water and when the flask or vessel in which the process is conducted has perfectly clean walls, then it is possible to cool the water below the freezing temperature and still maintain it in the liquid condition. This is known as supercooling or under-cooling.


UNDER-COOLING
32° F.
ICE
ICE and SALT
Solidification of Water is 32° Fahrenheit under ordinary conditions.
Under-Cooling, under carefully controlled conditions, brings — temperature below 32° Fahrenheit without congealation.
Quartz is ordinarily crystalline, as found in Nature
BUT—
NATURAL QUARTZ CRYSTAL
Quartz Glass — an amorphous variety of quartz — is made by under-cooling of melted crystalline quartz.
QUARTZ GLASS DISH

Thus it has been found that it is possible under these conditions to reduce the temperature of the water to as low as 15 degrees F. without the formation of ice, but if the under-cooled water is disturbed in any way or if a particle of a solid is dropped into it, solidification is instantaneous. The entire mass is converted into ice.

Market in Watchful Mood

First high point reached in upward economic movement

L. W. Allwyn-Schmidt

THE sharp upward movement of the economic curve of the last few months is apparently experiencing its first check, and the slight drop noticed in some of the key industries has led to a temporary stop in the expansion of the commodity markets. This development will not be surprising to those who have studied the recent history of the national markets. It finds its explanation in the desire of the market to take stock of the achievements of the first two months of the year with a view to taking better care of future opportunities. The recent buying activity followed a period of depression. It has in many instances taken the form of a political demonstration. This is not a very sound foundation to build upon and manufacturers and dealers, after having learned their lesson during past years, must be excused, therefore, if they are unduly careful in their production and merchandising policies. They simply do not want to be caught again by a sudden drop in the purchasing activities of the market.

Divided Activity in Industries

An outstanding feature of the situation is an almost unseasonal surplus of activity in one set of industries while others remain either stationary or even start to recede. The textile industries belong to the first group. This might have been expected, considering the heavy reduction of textile stocks during the last year. There is, however, great uncertainty in other industries. Reports vary, for instance, about the conditions in the steel industry, which appears to have come almost to the end of its recent expansion. Again the automobile industry is inclined to move more cautiously after having passed through great activity earlier during the year. The heating industry is progressing normally and the food industries have remained approximately where they were at the beginning of the year.

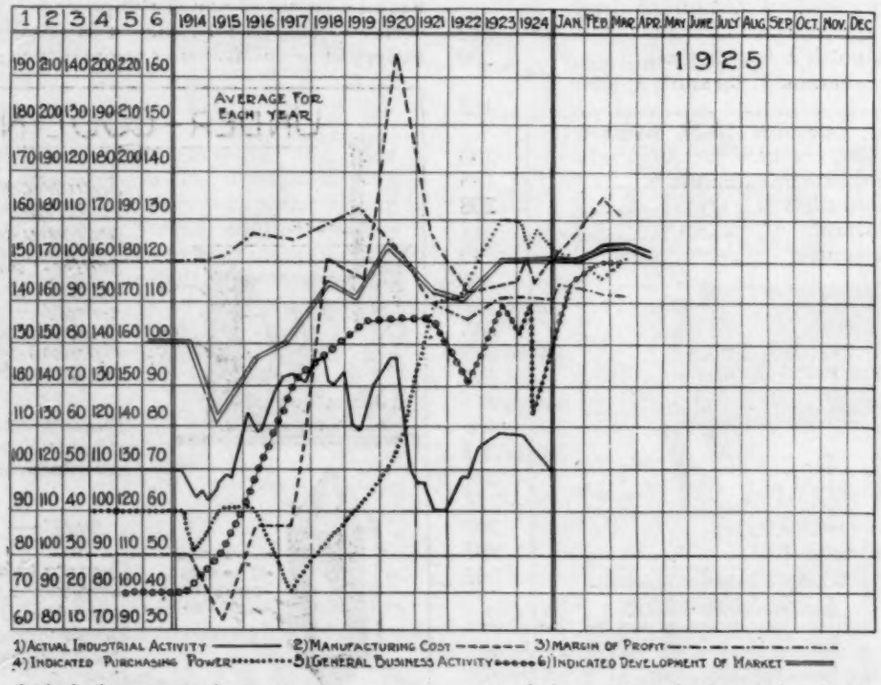
Chance for continued prosperity today rests with the consumer exclusively.

The Consumer's Viewpoint

The consumer has taken a rather pessimistic view of his situation during the last year or so. After a run of high prices had frightened him, so to speak, out of the market, he is coming back very cautiously, and shows little inclination to swallow the bait of lower prices offered by the manufacturers and retailers. But prices have taken a decided downward turn during the last half year. This does not apply so much to food prices, but there has been a marked reduction in all other consumers' merchandise. The present tendency is to provide better quality for lower cost.

But experience has shown that even low prices are not always a cure for a commercial deadlock unless the consumer is able to make use of his opportunity. It is, therefore, the consumer's financial condition which offers the solution to our present economic problem.

(Continued on page 321)


1 2 3 4 5 6
1914 1915 1916 1917 1918 1919 1920 1921 1922 1923 1924
JAN. FEB. MAR. APR. MAY JUNE JULY AUG. SEP. OCT. NOV. DEC.
1925
AVERAGE FOR EACH YEAR
1) ACTUAL INDUSTRIAL ACTIVITY
2) MANUFACTURING COST
3) MARGIN OF PROFIT
4) INDICATED PURCHASING POWER
5) GENERAL BUSINESS ACTIVITY
6) INDICATED DEVELOPMENT OF MARKET

As The Journal Views It

GAS SALES STIMULATION

One of the most important services which the Commercial Section of the American Gas Association has been performing for the gas industry has been concerned with the stimulation of gas sales. This has been done through the distribution of monthly bulletins and in other ways as well.

The gas industry must keep growing, but this growth must not be limited merely to the industrial field, but should also cover the domestic field as well. The sales manager of the gas company, who is confronted day after day with the sales problems that exist in his particular community, will naturally have difficulty in detecting the weak spots in his work which might be very evident to others. One finds in continual application to one's work that the mind becomes concerned too greatly with carrying out details—which is, of course, essential—and there gradually develops a condition of stagnation, characterized by the lack of new ideas.

The work of gas sales stimulation has been particularly useful in giving the gas sales manager hints and new ideas on which he can go out and secure new business. This has been well done through the A. G. A. gas sales stimulation work. It may also be mentioned here that it is likewise a function of all who serve the gas industry by the medium of the printed word. The American Gas Journal has been devoting considerable attention for the past two or three years to sales stimulation. At the present time a special department is devoted entirely to the commercial phase of the gas business and to giving gas salesmen and sales managers new ideas on how they may increase sales of gas and gas appliances.

That the 1925 program, therefore, calls for increased effort in gas sales stimulation should be of interest to all commercial men, for it means that they are to receive through this source additional ideas and assistance in developing their sales program. It is hoped and expected that this work will prove one of the most potent factors in driving our ship of industry towards the goal which has been set as a 50 per cent increase in the sale of gas and gas appliances within the next three years.

Another feature of the sales program which has been inaugurated for the above purpose is the holding of a series of conferences or meetings during the spring and summer along the same lines of the meeting that took place last year at Millbrook. This is also an enterprise of considerable importance. It has been established without question that the coming together of men who are interested in a common pursuit for the exchange of ideas is directly responsible for real mutual benefit. If all who attend such meetings go there prepared to learn and possibly to teach as well, then the net result can not be anything but successful. Conventions of gas men have shown their value just by being the means of keeping the men in touch with each other and in transmitting to them ideas and experiences which have been gained by their fellows and which may have some direct application to their own case. There is no question but that a meeting in which gas men who are interested only in the commercial phase of the gas industry, and which is attended by such men only, will be of even greater value to them than the regular gas conventions in which all phases of the gas industry are represented.

Sales stimulation is a great work and it deserves the support of all. It is a work that will have direct results and as a concrete goal has been set there will be no question as to whether it will be successful or not. That the 50 per cent increased goal will be reached in three years can scarcely be doubted. In fact. it would not be surprising if this goal is attained much sooner. But in order to do so and in order that everyone in the industry shall derive benefit from this work, the co-operation of all is necessary. The Sales Stimulation Committee of the Commercial Section of the American Gas Association, which has charge of this work, has our best wishes for success in its efforts. We shall be glad to co-operate in any way possible.

GAS METERS

(Continued from page 308)

will conform within reason with the temperature of the gas passing through the meter during all seasons of the year. Meters in locations subjected to artificial heat or outside weather conditions will not give good results. If the gas passing through the meter is subjected to a sudden change in temperature it will evaporate the meter lubricant, harden it, and cause deposits of condensates and naphthalene. The gas supply should always rise to the meter inlet. The house line should drain to a pocket on the outlet side of the meter so as to avoid deposits of heavy vapors. The meter that contains condensates, heavy vapors and naphthalene should be immediately returned to the meter repair shop. Never attempt to remove the deposits on the customer's premises and leave the meter in service.

Battery Meter Settings

Apartment and battery meter settings are more difficult to make than residence settings, if you are particular about perfect line-up. Then again the leakage is harder to locate. The smaller the leak the more difficult it is to locate, and probably the greatest number of leaks are at the inlet or outlet union of the meter. Some years ago we set meters with lead connections and leather washers. Those were the easy days for the meterman. Then we compromised (at least we did in the East) and set meters with an iron connection on the inlet, and lead on the outlet and still used leather washers. Then we omitted the lead connection on the outlet and set the meters with all iron connections, still using the leather washer. Now we set meters with all iron connections or meter bars and use a fibre washer.

It is not so difficult to set a meter with a leather washer and not have a leak when the work is completed, but later, the leather washer would dry out and leak. So, to avoid this expense, some thirty years ago, we used the fibre washers. Then we experienced some difficulty in getting the connections tight, but once they were tight, that put an end to the expense of returning to repair leaks at the meter unions. However, we are not entirely free from trouble in using the fibre washer because we still have some meters with short tube screws (that were designed in the days of lead connections) that will not stand the strain it takes to make up a union on a fibre washer. But in spite of this trouble we feel that it is better to use the fibre washer.

Advantages and Disadvantages of Battery Settings

Setting meters in a battery has its merits, and disadvantages as well. It is an easy method to supply a customer, whose hourly demand is greater than the largest capacity meter carried in stock by the company. The meters take up less floor space on the customer's premises and are easier to set with less expense, and then there are some customers who use an hourly rate of gas beyond the capacity of any gas meter manufactured, that is a positive measuring meter, and in this case there is more clerical work and greater meter maintenance expense. In every battery setting you will invariably find at least one meter that meters more gas than the rest and generally in excess of its capacity, which necessitates close watching and changing meters.

It is good practice in the setting of meters, either in battery, or for the large industrial, to have at least one extra setting to avoid interruption of service, and at the same time it relieves the meterman of "gassing out," which means the avoidance of considerable trouble both for the meterman and the company. In setting the meter it is necessary to "gas out" and test so as to guard against leakage.

"Gassing Out"

There are several methods used. Probably the use of the meter dial is the most common practice, but this is not always reliable. The "burner test" seems to be practical as well as positive. It is made in this manner: First, "gas out" the entire house line. Then with the gas pressure full on, light the gas burner nearest to meter, and at the same time measure with the eye or otherwise, if you wish, the height of the flame. Now shut off the burner in use, and turn off the gas pressure at the meter. Allow 3 to 10 minutes to elapse, taking care that nothing is opened on the line under test, during the test; at the end of the allotted time light the same burner under test. If the flame burns as high as it did on the test, you are sure the test proves tight. If the flame keeps on burning, then the meter cock leaks. In that case, repair the leak and repeat the test. This test is positive and therefore safe.

THE SCIENTIFIC PROMOTION OF GAS SALES

This is the title of a book written by Arthur Coe and published by D. Van Nostrand & Co., New York.

It is called a treatise upon the organization of gas distribution and gas sales departments. It is indicated that the purposes of this work are to identify distribution as a department distinct from manufacture, to establish an economical basis for this department, to relate the operation of this principle with sound commercial enterprise and to construct on this basis a complete distribution organization, to describe the first principles of gas sales and to show the relation between these principles and the problems of salesmanship.

In other words, the book is in the nature of a textbook on the science of gas sales promotion. Accordingly, it is divided up into two parts, one, the organization, and two, the scientific promotion of gas sales. Under organization are discussed the principles, the control of materials, the control of labor of repair shops and other important phases. The promotion of sales is discussed from the heating field and heating and ventilation. It pertains only to domestic sales.

The book is replete with many illustrations of forms to be used in this work and it contains valuable information to the gas man.

PROGRESS IN GAS TECHNOLOGY
Domestic and Foreign

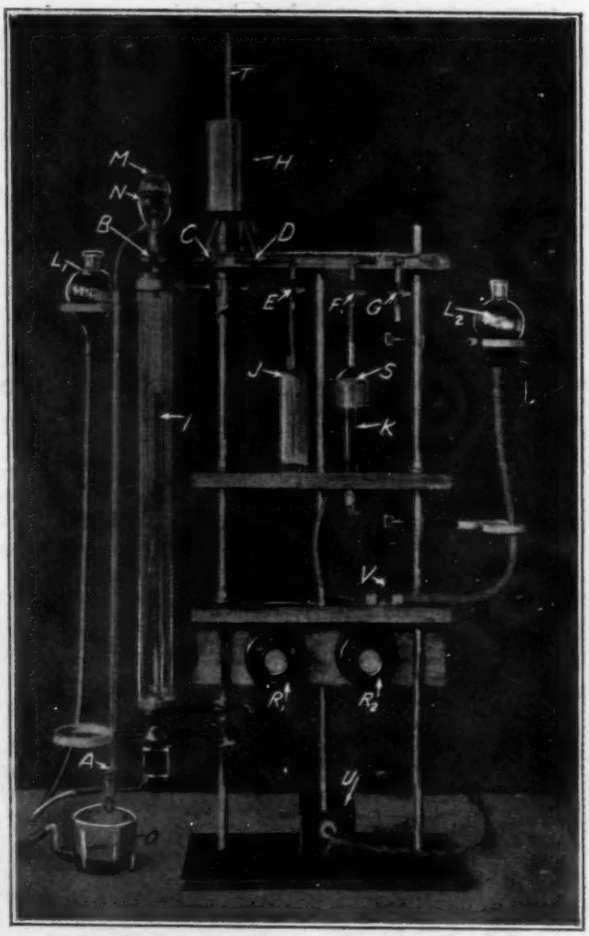
HORIZONTAL OR INCLINED GAS RETORT SETTINGS

A HORIZONTAL or inclined gas retort setting is divided to the ground-level into separate front and rear halves by a wall through which the retorts pass, and the two halves are subdivided into a number of lateral chambers by partition walls running parallel to the center dividing wall. Each of these lateral chambers is fed with producer-gas. In a setting having three vertical rows of retorts the burning gases flow upwards along the outer sides of the outer rows of retorts, across the top and downwards between the inner sides of the outer rows and the sides of the center row. Independent regulation of the three or more lateral chambers nearest the center dividing wall is effected by means of dampers in the waste gas passages. Parallel waste gas passages communicating with a waste gas main flue are provided in the center of each half of the setting and below the level of the lowest retorts, and a producer-gas passage is provided at the outer side of each waste gas passage. Supplementary air inlets at the top of the retort chamber are connected to inlets below the retort chamber by passages running through the side walls of the setting and through baffles below the setting, so that air is induced in them by the draught.—(English Patent No. 222,987.)

ANALYSIS OF FUEL GAS

CIRCULAR No. 12 of the Engineering Experiment Station at the University of Illinois is concerned with the analysis of fuel gas. This booklet contains a complete description of all important analyses that are carried out on fuel gas. It also describes a form of gas analyzing device called the Illinois apparatus, which is used in the analytical process and description of which follows:

The apparatus shown in the figure has been developed from the enlarged Orsat. The Morehead burette serves as a measuring burette and as an absorbing pipette for carbon dioxide, illuminants, oxygen and carbon monoxide. It is surrounded by a jacket, filled with water slightly acidulated to keep it clear. The leveling bulb L_1 is used to obtain atmospheric pressure on the gas for measurement, and to force the gas through the copper oxide furnace or into the slow combustion pipette. The inner funnel M is connected to the burette by a ground glass joint so that it may be easily removed. The outer funnel N is fastened to the capillary of the burette by a rubber stopper and is connected to the overflow cup O by glass tubing. This funnel catches and carries away the solution when funnel M is removed for cleaning. Overflow cup O serves as a seal to the burette and to conduct the waste solution to the sink. The siphon leading away from this receptacle draws the solution from the bottom and when this solution reaches a certain height the overflow through the siphon begins. When the solution is lowered to about one-half inch above the bottom of stopcock A the flow is broken by means of a small tube sealed into the top of the S of the siphon and extending down the proper distance in the overflow to break the siphon at the desired level.



The copper oxide furnace H consists of a chromel wire resistance wound on an alundum core, insulated with sil-o-cel and contained in a metal jacket. In this furnace No. 26 Chromel "A" wire is used, of suitable length to furnish about 150 ohms resistance. The current is taken from a 110-volt a-c lighting circuit. A 360 deg. C. thermometer T extends down through the furnace about half way and rests against the U-tube. The heating element or furnace proper is removable.

The slow combustion pipette K, holding approximately 210 cc., is made of pyrex glass. The connection to the manifold is by means of a capillary so that the gas enters the pipette in a small jet, and this aids in the prevention of explosive mixtures during the manipulation. Near the bottom of the pipette is a side arm for connection with the leveling bulb. The opening at the bottom of the pipette is thus closed with a two-hole rubber stopper which accommodates only the two glass tubes, at the inner ends of which special leading-in wires are sealed. These wires support the platinum coil S placed about one-half inch below and slightly to one side of the opening of the capillary tube. It is connected to a 0.65 ohm rheostat R_2 which is in turn connected to a transformer U, reducing the 110 to 6 volts. One plug connection serves both heating systems.

The pipette J, of approximately 100 cc. capacity, is used as a reservoir when passing the gas back and forth through the copper oxide and also for storing the gas when oxygen for the slow combustion is being measured into the burette. It is filled with distilled water slightly acidified.

The manifold connecting these parts and carrying the five stopcocks is made of capillary tubing and is divided into two parts to facilitate manufacture, assembling and repairing.

GAS CLEANS BRISTLES, HEATS PITCH FOR BRUSH MAKERS

Brushes by the million, large and small, fat and flat, round and square, are required to meet the needs of home and work places in this age of cleanliness. Not only more brushes, but better brushes, are demanded.

To meet this demand the brush industry has enlisted the aid of manufactured gas for fuel, and gas is playing an increasingly important part in the brush factories of the country.

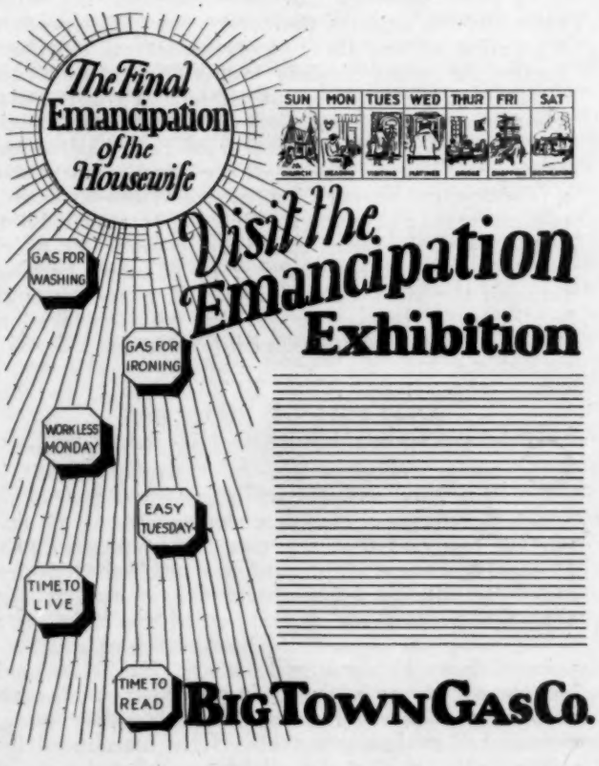
Horse hair, for bristles, reaches the factories in large canvas bags. This must be carefully sterilized, and to that end huge vats of disinfectant are heated almost to the boiling point, and in these the hair, sacks and all, is immersed. Gas burners keep the liquid at a constant temperature, whereas with the coal formerly used many sacks of hair were destroyed by the unexpected boiling of the disinfectant.

When the bristles have been cleaned and sorted, they are dipped in pitch to hold them in the wooden brush-backs. Until recently the pitch was heated with charcoal, and frequently fires of the inflammable material resulted. Gas burners have entirely done away with this hazard.

The final stage in the manufacture of many brushes is japanning, and in this work gas has brought about notable improvements. The painted brush-backs were formerly baked in a coal-heated oven, with the result that dust was deposited on many of the wet brush-backs, ruining the high finish. The problem of dust has been eliminated by the use of gas, while the time required to dry brushes has been reduced from twelve hours to an hour and a half in a gas-fired cabinet.

THE APRIL CAMPAIGN

The Gas Sales Stimulation Bulletin, covering activities for the month of April, contains a very comprehensive plan on a drive on gas laundry equipment. The sale of the gas for laundry purposes is a field which has been somewhat neglected by the gas companies. It is one which offers large reward for those who undertake to develop it. The material that is contained in the aforementioned bulletin is based on a principle which should prove successful, for it appeals to the housewife, and has as its essential idea the removal of household drudgery. As is aptly stated, after all, the essence of what the gas industry has to offer women is free dom from household drudgery.



The bulletin also contains material for home service, including a number of recipes prepared under the direction of Miss Swan, of the Public Service Gas Company of Newark.

Catechism of Central Station Gas Engineering in the United States

Installment No. 65

(Continued from last week)

The volume of water collected is 1992 c. c. or 1.992 litres. The heat produced by the combustion of 0.1 cubic foot of gas is therefore $8.56 \times 1.992 = 17.05$ Calories, and the calorific value per cubic foot measured at a temperature of 63 degrees F. and a barometric pressure of 29.33 in. is 170.5 Calories. A Calorie equals 3.968 B.t.u., so the corresponding value is $170.5 \times 3.968 = 676.54$ B.t.u. But from the tables for the correction of the volume of gases we find that the quantity of gas that occupies a volume of 1 cubic foot at a temperature of 63 degrees F. and a pressure of 29.33 in. will, under the standard conditions of a temperature of 60 degrees F. and a pressure of 30 in., occupy a volume of 0.970 cubic feet. Consequently, the calorific value of a foot of the gas under test measured under the standard conditions, or as it is called the calorific value corrected for temperature and pressure will

be $\frac{676.54}{0.97} = 697.5$ B.t.u.

The amount of heat available with the water in the state of vapor is obtained, as explained in the answer to question No. 319, by deducting from the calorific value 2.38 B.t.u. for each cubic centimeter of condensed water collected per cubic foot of gas burned. In the present case 27 c. c. of condensed water were collected, so the uncorrected value for available heat is equal to $6776.34 - (27 \times 2.38) = 676.54 - 64.26 = 612.28$ B.t.u. To obtain the corresponding value corrected for temperature and pressure, this must be divided by 0.97 for the reasons given above, and this corrected value is 631.2 B.t.u.

Calorific Value of a Gas

321. A calorimeter test made on a certain illuminating gas gave the following data: Gas consumed, 0.2 cu. ft.; average temperature of water entering the calorimeter, 72.74 degrees F.; average temperature of water leaving the calorimeter, 88.09 degrees F.; average temperature of escaping products of combustion, 75.2 degrees F.; weight of water heated, 7.57 lb.; temperature of gas at meter, 72.68 degrees F.; temperature of room, 72.6 degrees F.; height of barometer, 29.26 in. Calculate the calorific value of the gas.

Ans. Since a British thermal unit is the amount of heat required to raise the temperature of 1 lb. of water 1 degree F., the product obtained by multiplying the weight in pounds of the water heated by the number of degrees Fahrenheit by which its temperature is raised, is the number of British thermal units absorbed by the water and consequently the number produced by the quantity of gas burned in the test.

As the water enters at a temperature of 72.74 degrees F. and leaves at one of 88.09 degrees F., its temperature is raised 15.35 degrees. The weight of water collected is 7.57 lb. The heat produced by the combustion of the quantity of gas which under the given conditions of temperature and pressure measures 0.2 cubic foot is therefore $15.35 \times 7.57 = 116.2$ B.t.u., and the calorific value, per cubic foot measured under these conditions, is 581.0 B.t.u. But the tables for the correction of volume of gases show that the quantity of gas which occupies a volume of 1 cubic foot at a temperature of 72.68 degrees F. and a pressure of 29.26 in. will, under the standard conditions of a temperature of 60 degrees F. and a pressure of 30 in., occupy a volume of 0.942 cubic feet. Consequently, the calorific value of a cubic foot of the gas under test corrected for temperature and pressure will be $\frac{581}{0.942} = 616.8$ B.t.u.

Gas Required to Produce Certain Heating Effect

322. A certain illuminating gas has a calorific value of 680 heat units per cubic foot. It is desired to bring to a temperature of 148 degrees F. two gallons of water placed in a pot and over a burner which together will put into the water 29 per cent of the calorific value of the gas. The water at the start has a temperature of 60 degrees F. The barometer marks 30 in. atmospheric pressure. How much gas must be burned to produce the desired result?

Ans. As the gas has a calorific value of 680 heat units per cubic foot and the burner and pot enable 29 per cent of the heat developed by the gas to be imparted to the water, each cubic foot of gas will give to the water $\frac{29}{100} \times 680 = 197.2$ heat units. To raise the temperature of one pound of pure water from 60 degrees F. to 148 degrees F., $148 - 60 = 88$ heat units will be required. The weight of a gallon of water at a temperature of 60 degrees F. is commonly taken as 8.33 lb., and, therefore, two gallons will weigh 16.66 lb. To raise the temperature of this weight of water from 60 degrees F. to 148 degrees F. there will be required $88 \times 16.66 = 1{,}466$ heat units. Since each cubic foot of gas used supplies 197.2 heat units, there will be required to supply

1,466 heat units $\frac{1466}{197.2} = 7.4$ cubic feet. If all the heat the gas is capable of producing could be imparted to the water there would be required only 2.15 cubic feet. The difference between this amount and that actually required is due to the imperfections of the apparatus.

Method of Combustion and Heat Developed

323. Has the method of burning a cubic foot of gas any effect on the quantity of heat produced, if the combustion is complete?

Ans. The method of burning a cubic foot of gas has no effect on the quantity of heat produced, if the combustion is complete. The temperature of the flame is affected by the conditions under which the gas is burned.

Calorific Value and Illuminating Value of a Gas

324. What relation, if any, is there between the calorific value of an illuminating gas and its illuminating value when consumed in a standard luminous flame burner?

Ans. There is no definite relation between the calorific value of an illuminating gas and its illuminating value when consumed in a luminous flame burner. The greater part of the calorific value is derived from components which do not of themselves furnish illuminating value, and by reason of change in composition it is possible for an illuminating gas to vary considerably in calorific value and yet be of the same illuminating value or to vary in illuminating power while remaining of practically the same heating value.

In the case of different samples of coal gas made from the same coal, but of different candle-powers by reason of being produced by carbonization of the coal at different temperatures, there is a fairly constant proportion between the illuminating value and the calorific value, as there is also, within certain limits of candle-power, in the case of different samples of carburetted water gas made from the same oil, but this relation does not hold between gases made from different coals or different kinds of oil.

In a lecture delivered before the Institute of Gas Engineers, Prof. V. B. Lewes gave the following table as the average relation between candle-power and calorific value as determined by a number of tests, but said that the results in any particular case might vary 5 per cent either way from these, and even with this qualification exception was taken to the figures by some gas engineers. They stand, however, as the most definite statement yet published.

	Calorific value B.t.u. per cubic foot	
Candle power	Coal gas	Carburetted water gas
12	540	490
13	560	510
14	585	529
15	610	547
16	625	567
17	647	587
18	670	607
19	690	627
20	712	647

325. What is the meaning of specific heat as used in the statement "the specific heat of nitrogen is 0.244?"

Specific Heat

Ans. "Specific heat" as used in the statement quoted in the question denotes the amount of heat expressed in heat units which is required to raise by 1 degree the temperature of unit weight of a substance. Since a heat unit is the amount of heat required to raise by 1 degree the temperature of unit weight of water, the specific heat of a substance is the ratio between the amount of heat needed to raise by 1 degree the temperature of unit weight of the substance and the amount of heat required to raise by 1 degree the temperature of unit weight of water. If the unit of weight is the pound avoirdupois and the temperature is measured in Fahrenheit degrees the specific heat is expressed in British thermal units, while if the unit of weight is the kilogram and the temperature is measured in Centigrade degrees the specific heat is expressed in Calories. It is expressed by the same number in each case. More heat is required to raise the temperature of unit weight of water a given amount than is needed to raise by the same amount the temperature of unit weight of any other substance, with the exception of hydrogen; therefore, with this exception, the specific heats of all substances are less than 1.

The amount of heat required to raise by 1 degree the temperature of a body which is free to expand, or, as it is said, is kept under constant pressure, is not the same as the amount required to produce the same change in temperature in the body if it is kept at a constant volume. For every substance there are, therefore, two values for the specific heat, one for constant pressure and one for constant volume. There is also what is termed specific heat by volume, which is the amount of heat, expressed in heat units, required to raise by 1 degree the temperature of unit volume of a substance. But when the term specific heat is used without any qualification, as in the statement "the specific heat of nitrogen is 0.244" and in the first paragraph of this answer, it refers to specific heat by weight and at constant pressure.

(Sixty-sixth Installment Next Week)

HUMANIZING THE GAS INDUSTRY

(Continued from page 306)

to grow upward, to reach out, to spread, which requires nourishment from below and encouragement from above.

To Employees' Associations and Activities is given the great opportunity of stimulating the imagination; of fostering that desire, among the employees of the organization, to rise and improve, and in just the proportion that the employees do expand and improve the company prospers and grows,—the natural result of a more efficient organization and better service.

Through Employees' Organizations and Activities that "human touch," that feeling of "fellowship," that "sunshine of encouragement" may be transmitted from the executives and officials above to the workers whose natural urge is upward.

Accident Prevention

Another important activity which may best be handled through these organizations and activities is that of accident prevention. Accidents result in wasteful or non-productive expenditures and a vast majority of them are preventable.

Co-operation is the cornerstone of a successful safety movement. Without it little may be accomplished,—with it the sky is the limit. You cannot buy the right kind of co-operation with prizes or bonuses. You may get a certain kind of result, and I do not discourage their use, in fact we do use them,—but the point is that by these methods, alone, the employees will not be really with you. The right kind of co-operation that you will get is in direct proportion to the general morale of your employees.

Bowling, an Ever Popular Activity

Avoid Paternalism

Evils as correspondingly grave as its benefits may be unlimited. It is imperative for their success that while there be no show of paternalism, there should be the friendly, guiding hand of the executive in its policies and activities. By his example and personal participation, he furnishes the inspiration for active co-operation on the part of all.

Possibly a brief outline of what we are doing in the Wisconsin Division of the Northern States Power Company along these lines will be of interest.

In the larger communities such as La Crosse and Eau Claire, we have organizations for both the men and the women. The management and administration of the affairs of the organization are entirely in the hands of the employees themselves. The direct management is under the control of a board of managers, which is composed of one elected representative from each department, including the executive department. The officers of the organization are elected directly by their board of governors, and they, as well, pass on and approve all committees, which are selected by the president. They also regulate and supervise as far as is practicable all activities of the several committees and such others as may be promoted by the association at large.

The Men's Organization

These men's employees' associations hold a get-together or stag smoker, as a rule, once a month. Every employee is a member. Proper publicity is given through a committee by appropriate posters designed by employees, and we find the attendance constantly increasing. The Entertainment and Educational Committees co-ordinate to produce a well-balanced program between wholesome fun and instructive talks. At some of these meetings lunch is served by the women's organization after the stag program, and the remainder of the evening given over to a family dancing party.

All expenses of these meetings, which are kept within a reasonable limit, are paid for by the company.

To meet the natural upward urge of the employees, the men's association at Eau Claire is conducting classes for instruction of employees along different lines, among which is a class in effective public speaking. The employees of the gas department meet one evening each week with the department superintendent as a supplement to the correspondence school courses which many are taking.

An Effective Poster in Safety Work

Sports

While we enjoy and like our work, we also like to play, and many of our associations have active athletic committees which promote all kinds of sports among the employees. We have company baseball, kitten ball, bowling, basket ball, volley ball, and hand ball teams,—all of which participate in season in friendly rivalry with industrial league teams of other organizations and with departmental teams in our own organization.

I believe this activity of sports alone has done more to promote a spirit of co-operation among all branches of our employees than any other one thing. Every red-blooded American enjoys a contest and desires to excel. In group action, that means "team work," which is but another name for "co-operation," or "co-ordination of effort."

In the outlying districts of small villages and where the employees are not so numerous, we find another phase of the problem of Employees' Organizations and Activities.

Employees can only be brought together during periods when highways are clear and when operating conditions are at their best. Nevertheless, knowledge of the benefits and pleasures being enjoyed by the more centralized district organizations would have a tendency to create unrest and dissatisfaction with the local conditions unless the employees' interests are maintained within their own particular districts.

The necessarily intermittent opportunities for employees' meetings preclude successful employees' organizations. Consequently this must be accomplished through other channels. Our plan is to call together all employees not needed for service requirements about every sixty or ninety days. The meetings are held on company time and usually end with a banquet in the evening, to which are invited, by the district manager, two or three representatives of the community in which the meeting is held.

The Women's Organization

Our women employees also have their organization, in line with the plans of the Woman's Public Information Committee, Public Relations Section of the National and State Associations, and all that has been said of the men's organization applies also to them. They hold their meetings at regular intervals and their program committee provides speakers and entertainment. Frequently subjects are assigned to individuals or groups of their organization and papers prepared for discussion on the various phases of the public utility business.

While this organization was started at Eau Claire and La Crosse during 1924, the results obtained and

Valentine Day in a Crossword Puzzle Dress

the enthusiasm shown is most gratifying, and they are entering into their 1925 program with a spirit that speaks well for the utilization and development of that part of our organization which has, in the past, been somewhat neglected.

Work Going On

For the purpose of still further humanizing our organization and as a stimulant to the thought that we are but one big family, we have, on occasions, what we call company parties. All employees and their wives or sweethearts are invited. The feeling of restraint which so often exists, among the different classes of workers, in a large organization, breaks down under the cordial fellowship practiced by executives and department heads.

Last Christmas we had a party for the children. The program was furnished by the Billies, Jimmies, Marys and Janes,—all children of the employees of all departments. Santa Claus appeared on the scene at just the proper time to be welcomed by the mayor and receive from him the keys to the city, which gave entrance to a Christmas tree loaded with a gift for each of the little ones.

The employees through their organizations had worked nights and Sundays to perfect this party to a high degree. The true spirit of Christmas, Peace on Earth, Good Will Toward Men, fostered throughout the year, had been exemplified.

MARKET IN WATCHFUL MOOD

(Continued from page 312)

Measuring the Purchasing Strength

The purchasing strength of the consumer cannot be easily measured. The two main factors involved are the actual earning power of the wage earner, the salaried and business man, pitted against the cost of living. The first constitutes the accumulated spending power of the nation and the other the absolutely necessary expenditure for the upkeep of life and home. What is left after the latter has been satisfied may be expected to be spent for luxuries. If earnings are high and living expenditures normal the margin increases. It is decreased by rising food prices, high rents and by high prices all around. If the margin left the consumer after satisfying his necessary and normal wants is large, one may expect that part of the surplus will be spent in additional, not immediately needed purchases.

More Employment Expected

In view of the larger activity in the nation's industries, we can expect more employment during the coming months, with increasing wage scales and better earning all around. The sum total available for purchases will grow. The cost of living has become more stabilized and there are no sensational increases expected at this time. The apparent prosperity of the farmer leads to the hope of a continued purchasing movement from this quarter. Hence we may expect reasonably a continued increase in the purchasing power.

This, together with the increasing steadiness of the political situation at home and abroad, gives hope for a widening of the buying movement late in spring or during early summer. Time, therefore, will be given to individual industrial branches to get ready for an increasing demand for merchandise. Manufacturers will do well to move cautiously, adding to their productive facilities only with compulsion. An attempt should be made to place stocks in the hands of the jobbing and wholesale trade, so as to permit a regular flow of merchandise from producer to consumer without overtaxing the existing industrial equipment. Retailers may aid by making an exact survey now of their respective markets, with a view to regulating their purchases sufficiently far ahead to avoid rush orders when business gets fully under way.

SIMPLIFIED CUSTOMERS' ACCOUNTING

(Continued from page 307)

The Ditto Plan

The ditto system provides for the preparation of the main body of the bill either by means of longhand, stamps, or machine, or a combination of any or all of these, using hectograph ink or ribbons. The bills are prepared in strips of five and, after the billing information is entered on the bills, the strip of bills is inserted in the duplicator from which the imprint on the cashier's stub is obtained, also the imprint of 50 bills on a large ledger sheet. Earnings are taken off the large ledger sheet at the time of balancing. Cash is posted to the ledger sheet by rubber stamp.

A particular feature of this system is that as many copies can be prepared of this ledger sheet as are necessary for information purposes in small outlying towns where only collections are handled by the local forces.

Comparison of Plans

Consideration of flexibility, compactness of records, ease of operation, speed, convenience of reference, possibility of duplication, number of services billed, complexity of rate structure, organization of the company, and the extent of the territory billed are all factors which enter into a decision as to which plan the company shall use.

The register sheet plan presents less of a filing problem and the accounts are kept in a more compact form, but the stub plan is more flexible.

The stub plan, because of its flexibility, lends itself to easier handling of special, late, and final bills, and the rearranging of accounts and records. On the other hand, the register sheet plan, because of its compactness of accounts, does not present the pos-

sibility of losing or misplacing accounts, although the stub plan offers all the safety that could be expected under any plan.

The posting of delinquent items from last month's stubs to the current bills and ledger records is performed in one operation under the stub plan, whereas under the register sheet plan the posting has to be made both to the register sheet and to the bill. The additional operation of printing of addressograph plates on the right-hand margin of the register sheet is somewhat offset in the stub plan by the necessity of having to addressograph an additional stub of the bill.

The ditto plan has the same advantages over the old system that both stub and register sheet plans have. Its outstanding advantage is that ledger records can be more easily duplicated, thus providing a record for both home and local office in case of district organization. The principal objections to the ditto plan are the relatively poor appearance of the bill, the fact that the information appearing on the cashier's stub is imprinted on the reverse side of the main body of the bill, and that a separate and tedious operation is required to obtain the monthly revenue and balance figures.

The Handling of Credits

Without doubt the greatest objection that has been raised to simplified customers' accounting is that through the elimination of the chronological record all on one sheet, the best possible basis for passing on the credit standing of customers has been taken away. However, this is a problem which is more pronounced in the larger companies. That objection has been answered through the creation of a credit card file, which, together with the meter reading record, provides all the information that ever could be obtained from the old-fashioned ledger sheet.

Baltimore has undoubtedly the best development. Every application for service is routed to the Credit Department and from it is made a credit card.

All departments dealing with customers have direct telephone communication with the Credit Department.

A recent, careful investigation of this system indicated that it is solving the problem in Baltimore in a very satisfactory way.

Giving Information to Customers

Another objection raised to the simplified system of customers' accounting is that under such a system it is more difficult to secure information for customers than under the old system, where the chronological ledger record is all on one sheet. It is alleged that where one does not find all the information he wants on the current stub ledger record or on the register sheet it becomes necessary to refer to the meter reading sheet, and in those cases where it is necessary to make a transcript of the account too much time is involved in digging up the previous months' stubs or paging through the previous months' register sheets.

The proponents of the system of simplified customers' accounting accept in principle the validity of this objection, but they point out that it is more apparent than real. Time studies have been taken which show that the time involved in looking up accounts under the old system and under the new show a slightly increased time under the simplified system, but the total amount of such increased time involved during the year is found to be only a fraction of the amount of time saved in the other operations.

1. Doing Away With the Ledger Sheet: The first and greatest advantage is the making use of a by-product of billing to serve as a ledger sheet which in itself constitutes the debit posting. In the stub system this is the additional ledger record stub attached to the bill, which is prepared by one simple automatic additional machine operation. In the register sheet system it is the register sheet itself. In the ditto system it is a hectograph copy of the bill. Thus, through the operation of the printing of the bill, the debit postings are made to the ledger, and this without any additional labor on the part of the operator.

2. Elimination of the Necessity of Rewriting

Convenience!
Our Grandparents—
Ordered wood or coal.
Stored it in the shed.
Paid for it before using.
Carried it to the kitchen and placed it in the scuttle or wood box.
Fed the fire as needed.
Carried out ashes, daily.
Paid for disposal of ashes, later.
We—
Turn a valve any hour of the day or night, and without a moment's notice have a hot, clean, perfectly controlled fire from fuel which we do not have to store, which leaves no ash and which we use first and pay for afterwards.
"If it's done with Heat—you can do it Better with GAS"
(Your Name and Address Here)
A.G.A.-413

An Effective Comparison, Indicating One Important Use of Gaseous Fuel

Ledger Sheets at Regular or Irregular Intervals: Whether a company uses a bound ledger record, a loose-leaf record, or a card record, these ledger sheets or cards have to be rewritten when they expire. This rewriting of the ledger sheets is an expensive proposition both as to time and stationery, and it is altogether done away with under the simplified system.

3. No More Heavy Ledgers to Handle: No matter what the variation of simplified customers' accounting is used, there are no more heavy ledgers to handle. If the register sheet plan is in use, the 20 accounts to the page reduces the ledger of 300 accounts to 15 pages, so that the record for the whole year for that ledger will only be 180 pages. If the stub plan is used the stubs are filed in convenient trays which present no problem of handling. Under the ditto system the large sheets are bound in loose-leaf form.

4. It is Easier to Post Credits: No matter what system of simplified bookkeeping is used, it is somewhat easier to post credits, for it takes less time to match stubs or even to stamp them "Paid" than it does to enter the amount of the payment or enter a paid stamp on the ledger sheet or card. This is particularly true if the cash is posted only at the end of the discount period, but inasmuch as this method of posting is equally applicable to all systems of bookkeeping, it cannot be claimed as an advantage to the simplified system.

Under the register or ditto plans, the posting of cash is likewise simplified in that there are 20 or more accounts to a sheet, thus making fewer pages to turn.

5. You Don't Have to Handle Accounts That Have Been Paid: Especially under the stub plan, the ledger consists only of the unpaid accounts. This makes for greater ease in handling. It enables the bookkeeper to take care of more accounts, and results in the reduction of expense. This feature is not so outstanding in the case of the register or stub system.

6. Preparation of Collector's Statements Is Facilitated: In the case of the stub plan, all of the accounts still unpaid stand out clearly, and the preparation of collector's statements is facilitated.

Under the register sheet system the advantage is somewhat less, but even under this system the accounts unpaid stand out clearly, and it is not necessary to turn so many pages in the preparation of these statements, as is the case of the old system.

7. Saving In Cost: It is difficult to figure out just what amount or percentage of saving is brought about by simplified customers' accounting. It depends on the old methods in use. Most companies installing the new system do many other things than simply discard the old ledgers for the new plan. Usually they install a different type of billing machine or go from hand billing to machine billing. There are also other improvements, such as better districting, the installation of the cycle balancing system, or perhaps centralized billing.

A LITTLE "GAS" HARMONY FROM THE LAND O' LAKES

Tune—"It Ain't Gonna Rain No More"

By "Gas" Vaughn, Mgr., Oneida Gas Co., Rhinelander, Wis.

Old folks ain't gonna buy no more wood,
There'll be no more wood to pile.
Built a garage out of the old wood shed
And gonna cook with gas awhile.

Chorus:

Oh! it ain't gonna rain no more, no more,
It ain't gonna rain no more.
How in the gas do the old folks tell
It ain't gonna rain no more.

Ma said they could take the wash machine
Or even the big looking glass
But the guy'll get crowned with a rolling pin
That comes to shut off the gas.

Chorus

Our sister Sue made lots of fudge
And her beau thought gas was fine.
He bought a gas range after they were wed
Now it's fudge, fudge, fudge all the time.

Chorus

Brother Willie has a little gal
That he'd like for his frau,
She said her mother will cook with gas
If it takes the last milch cow.

Chorus

When people don't kick on big gas bills
We know the reason why,
They're making home brew and running their stills
And never bat an eye.

Chorus

Bill Weedly broadcasts from Kalamazoo
That he has won the fight;
His radio arcs are doing the "biz"
When there ain't no northern lights.

Chorus

We know our business is just right,
Right in every way.
"Good service" is our slogan
To work our meters night and day.

Chorus:

Oh! it ain't gonna rain no more, no more,
But it's gonna rain just as much,
We cook with gas nowadays you see
Wet wood we do not touch.

Current Market Prices

COALS (By Courtesy of Coal Age)

A. Bituminous.

(Spot prices, F. O. B. mines, net tons)

	Market	Price
High Volatile, Eastern		
Pool 54-64 (Gas Standard)	New York	$1.35 to $1.60
Pittsburgh screened gas	Pittsburgh	2.30 to 2.50
Pittsburgh gas, mine run	Pittsburgh	1.95 to 2.10
Kanawha lump	Columbus	2.00 to 2.25
Kanawha mine run	Columbus	1.40 to 1.60
West Virginia lump	Cincinnati	1.75 to 2.25
W. Virginia gas, mine run	Cincinnati	1.25 to 1.40
Midwest		
Indiana 4th vein lump	Chicago	2.50 to 2.75
Indiana 4th vein mine run	Chicago	2.00 to 2.25
South and Southwest		
Big Seam lump	Birmingham	2.25 to 3.00
Big Seam mine run	Birmingham	1.50 to 2.00
Southeast Kentucky block	Louisville	2.00 to 2.25
Southeast Kentucky mine run	Louisville	1.25 to 1.50

B. Anthracite

(Spot prices, F. O. B. mines, gross tons)

Market	Freight Rates	Independent	Company
Egg New York	$2.34	$8.25 to $8.50	$8.25 to $8.50
Egg Philadelphia	2.39	8.50 to 9.20	8.30 to 8.50
Egg Chicago (net tons)	5.06	7.76 to 8.40	7.42 to 8.08

COKE (By Courtesy of Iron Trade Review)

Connellsville, furnace	$3.10 to $3.35
Wise County, furnace	3.75 to 4.25
Alabama, furnace	4.00 to 4.50
Foundry, Newark, N. J., del	10.41
Foundry, Chicago, ovens	10.75
Foundry, Boston, delivered	12.00
Foundry, St. Louis	11.00
Foundry, Granite City, Ill.	9.00
Foundry, Alabama	5.00 to 5.50

PETROLEUM

(By Courtesy of Oil, Paint and Drug Reporter)

(Prices at wells, per bbl.)

Pennsylvania—Ohio—West Virginia	
Cabell, West Virginia	2.30
Corning, Ohio	2.10
Lima	2.33
Pennsylvania	$3.40 to 3.65
Wooster, Ohio	2.15
Indiana—Illinois	
Illinois	2.02
Indiana	2.03
Oklahoma—Kansas	
Mid-continent (low gravity)	1.35
Gulf Coast	
Gulf Coast, Grade A	2.00
Gulf Coast, Grade B	1.75

GAS OILS

Gas Oil, Bayonne, bulk, gal.	6¾c
Gas Oil (32-36), Oklahoma, gal.	3½ to 3¾c
Gas Oil (32-36), Gulf Coast, gal.	3¾ to 4 c

PIPE AND FITTINGS—CAReview)

(By Courtesy Iron Trade ST IRON GAS PIPE

Four-inch, Chicago	$55.70 to $57.20
Six-inch and over, Chicago	51.70 to 53.20
Four-inch, Birmingham	49.00 to 49.50
Six-inch and over, Birmingham	45.00 to 45.50
Four-inch, New York	63.50 to 64.50
Six-inch and over, New York	58.50 to 59.50
Standard fittings, Birmingham, base	115.00

6 to 24-inch, base; over 24-inch, plus $20; 4-inch, plus $20; 3-inch, plus $20.

BY-PRODUCTS

(By Courtesy of Oil, Paint and Drug Reporter)

Ammonia aqua, 16 deg. drums, lb.	5 to 5¼c
Ammonia aqua, 20 deg. drums, lb.	6¼ to 6½c
Ammonia aqua, 26 deg. drums, lb.	6½ to 6¾c
Ammonia aqua, anhydrous cylinder, lb.	30 to 36 c
Ammonium sulphate, bulk, delivered Northern markets, per 100 lbs.	$2.95 to $3.00
Ammonia sulphate, bulk, delivered Southern markets	3.00 to 3.15
Potash Prussiate, yellow casks	17¾ to 18¼c
Potash Prussiate, red casks, lb.	37 to 37½c
Soda Prussiate, yellow casks	10 to 10½c
Soda Sulphocyanide, barrels, lb.	45 to 55 c

COAL TAR BASIC PRODUCTS

(By Courtesy of Oil, Paint and Drug Peporter)

Benzol C. P. tanks, works, gal.	24c
Benzol, drums, gal.	29c
Benzol, 90% tanks, works, gal.	23c
Benzol, 90% drums, gal.	27c
Naphthalene, flake, barrels, lb.	5½ to 6 c
Naphthalene, dyestuff bags, lb.	5 to 5½c
Solvent Naphtha, water white, works, gal.	24 to 25c
Solvent Naphtha, drums, works, gal.	30c
Toluene, C. P. tanks, works, gal.	26c
Toluene, C. P. drums, works, gal.	31c

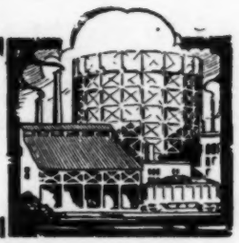
Coal

Output of bituminous coal during the week ended March 28 is estimated by the Geological Survey at 8,350,000 net tons, an increase of 67,000 tons over the previous week, as shown by revised figures. Total output for the coal year is estimated at 470,862,000 net tons, compared with 561,212,000 tons in the preceding year. Anthracite production during the week ended March 28 was 1,640,000 net tons, compared with 1,513,000 tons the week before. Total output for the coal year is estimated at 88,100,000 net tons, against 91,700,000 tons in 1923-4.

Gas Oil

The market was at a standstill locally, in so far as price changes were concerned. Gas oil was meeting with routine inquiry at 6¾ cents per gallon, bulk, for 28 degrees or better, f. o. b. Bayonne refinery. The gas oil market displayed an easy tone. The heavy production of January and February, together with the recent slump in buying, has left the refiners with large storage holdings, and some of them have shown considerable eagerness to make sales. The Bureau of Mines reports that February production of fuel oil, gas oil and residuum in California amounted to 332,843,442 gallons, a decrease of 52,906,603 gallons under January output. Stocks on February 28 were 843,232,608 gallons, a decrease of 2,602,148 gallons under January holdings.

NEWS OF THE GAS INDUSTRY



Eastern States Conference Plans Comprehensive Program

Wednesday, April 22

10 a. m.—Opening of Eastern States Gas Conference. Address of welcome, Uzal H. McCarter, president Fidelity-Union Trust Company; address by the president, P. S. Young, vice-president Public Service Corporation of New Jersey; address, H. C. Abell, president American Gas Association; address, Major Alexander Forward, secretary - manager American Gas Association; report of secretary and treasurer; report of nominating committee.

11:30 to 12 M.—National Sales Plan of American Gas Association, James P. Hanlan, chairman, Commercial Section.

12:30 to 2 p. m.—Annual meeting and luncheon of the Pennsylvania Gas Association, McCarter Gallery, Robert Treat Hotel.

2 p. m.—Training the Personnel of the Service Department, Thomas Mellick, engineer, Public Service Electric and Gas Company, Plainfield, N. J.; discussion.

2:45 p. m.—"Accident Prevention," Charles B. Scott, Bureau of Safety, Chicago, Ill.; presentation of McCarter Medals by Dudley Farrand, vice-president Public Service Electric and Gas Company.

3 p. m.—"The Attractive Gas Works," J. B. Jones, treasurer Bridgeton Gas Light Co., Bridgeton, N. J.; discussion.

4 p. m.—"The Waterless Gas Holder," Alten S. Miller, vice-president Bartlett Hayward Co., Baltimore, Md.; discussion.

8 p. m.—Moving picture, "New Jersey and Public Service"; dance.

Thursday, April 23

10 a. m.—"Mechanical Billing of Customers' Accounts," J. L. Conover, auditor gas department, Public Service Electric and Gas Company, Newark, N. J.; discussion.

10:45 a. m.—"The Future of House Heating by Gas," J. A. Perry, the United Gas Improvement Company, Philadelphia, Pa.; discussion.

11:30 a. m.—"Secrets of Success in Selling Securities to Customers," Percy H. Whiting, Henry L. Doherty & Co., New York; discussion.

12:30 to 1 p. m.—Annual meeting of the New Jersey Gas Association.

1:30 p. m.—Ladies' automobile tour and tea party. (Note: All ladies attending the conference should be registered immediately. It is necessary that the committee know how many ladies will attend. —Ladies Committee, H. H. Wells, chairman.)

2 p. m.—"The Importance of an Industrial Survey," Henry O. Loebell, president, Surface Combustion Company, New York; discussion.

2:45 p. m.—"Selling More Gas Appliances with the Aid of the Manufacturer," Wayne W. Calhoun, sales manager, Estate Stove Company, Hamilton, Ohio; discussion.

3:30 p. m.—"Selling Gas Appliances Through Newspaper Advertising," Miss Janet MacRorie, assistant on advertising, Public Service Electric and Gas Company, Newark, N. J., editor Advertising Women, New York City; "Home Service Work and Its Effect on Public Relations," Miss Ada Bessie Swann, director of home service, Public Service Electric and Gas Company, and chairman of the Home Service committee, American Gas Association.

6:30 p. m.—Banquet, ball room, Robert Treat Hotel; ladies invited; informal. Toastmaster, P. S. Young. Following banquet there will be dancing.

International Gas Exhibition in Italy

Notice has been received of an International Exhibition of the Gas and Water Industries which will take place in Padua, Italy, commencing June 5, next. In this exhibition there will be an attempt made to secure representation from the gas industry of the world and at the same time there will also be meetings of technical gas associations to which representatives from all countries have been invited.

The Journal is in possession of applications for participation in the Exhibit and a cordial invitation has been extended to all manufacturers of gas appliances and gas companies to send exhibits to Padua.

McCarter Medals Awarded to Pacific Coast Men

Through the generosity of Mr. Thomas N. McCarter, president of the Public Service Electric and Gas Company of New Jersey, the A. G. A. has at its disposal the award of a medal and a certificate for meritorious work in resuscitation of persons by use of the Schaffer Prove Pressure Method. The following awards to Pacific Coast men have just been announced:

Medals and certificates to James E. Fields, Pacific Gas & Electric Company, Fresno; William A. Bahr, Pacific Gas and Electric Company, San Rafael; Owen L. Dickinson, Pacific Gas and Electric Company, Fresno.

Certificates to: Daniel A. Kirkpatrick, Pacific Gas and Electric Company, Fresno; Horace Oftedal, Pacific Gas and Electric Company, Fresno; Alfred E. Englebright, Pacific Gas and Electric Company, San Rafael; Ray Kutter, Pacific Gas and Electric Company, Fresno; Pete Salti, Pacific Gas and Electric Company, Fresno.

Gas Franchise Issued to Churchville Company

Albany, N. Y.—The Public Service Commission today issued an order approving the exercise of gas franchises by the Churchville Oil & Natural Gas Company in the village of Churchville and town of Riga, Monroe county, and the town and village of Bergen, Genesee county. The company has been serving these communities for several years, but the old franchises had expired and the approval granted is of new franchises.

Gas Company in a Local Exhibit—Industrial Uses of Gas Featured

Atlanta, Ga.—One of the most interesting exhibits shown at the "Made in Atlanta" exposition, held in the Atlanta Auditorium recently, was that of the Atlanta Gas Company, a subsidiary of the Georgia Railway & Power Company.

The booth was built in the form of a gas tank and dominated the big exposition hall with its steel frame-work. On the outside of the booth were placards telling of some of the industrial uses to which gas could be put. Among these were listed brass melting, tempering, annealing, forging, brazing, galvanizing, case hardening enameling vulcanizing metal coloring, bread baking, candy making, ice cream cone manufacturing, house heating, water heating, refrigeration and last, but not least, ripening bananas.

Circulars given out at the booth continued the line of thought suggested in the placard advertising and told of the many industrial uses to which gas could be put.

But the big attraction proved to be a gas-heated candy kettle, such as is used in making commercial candies. Gas piping was laid through the floor of the booth to the kettle, and candy companies co-operated with the Atlanta Gas Company every afternoon and evening in making the candy.

All sorts of candies were made in the gas-heated kettle and distributed to the public when cooled and cut, and this feature, added to the attention created by the "gas tank," made the exhibit easily the feature of the "Made in Atlanta" exposition.

Sectional Meeting of Pacific Coast Gas Association

The third and last sectional meeting of the year will be held on Friday, June 5, 1925, in Oakland, California. The Oakland meeting will replace the usual Northern Section gathering, as the convention this year is scheduled for the North, and two such long trips would be prohibitive to our large California membership.

This meeting, next to the convention, will be the most important of the year. The association, through its officers and committees, is working on several vital problems, including the development of specifications for a satisfactory municipal gas ordinance, the outlining of a workable plan for the certification, by some authoritative body, of gas appliances as to safety, the question of our closer affiliation with the American Gas Association, and the publication of a gas appliance manual now under preparation by the Home Service Bureau. We cannot promise that a satisfactory answer will be found to all of these problems by the date of the meeting, but all that are out of committee will be presented for your discussion.

Mr. L. F. Galbraith is in charge of the arrangements. The program and place of meeting will be announced later.

According to the gas company, many who came to eat remained to ask questions about the industrial uses of gas, and hundreds of descriptive folders and booklets describing the commercial uses of gas were given out and many inquiries noted. While, of course, it is impossible to tell how much direct business will be secured from the advertising done at the show, gas officials express themselves as more than satisfied with the attention secured by the exhibit and the interest shown in their campaign to "Do It with Gas," and state that it was a most effective piece of advertising.

Examination for Meter Tester

Albany, N. Y.—The Public Service Commission announces an examination April 18 for position of gas meter tester, Public Service Commission. Three immediate appointments expected at $1,400. Candidates must have a common school or equivalent education, together with some mechanical training or experience which will enable them to promptly pick up the principles of the gas meter. Special credit will be given for experience in either the manufacture or testing of gas meters.

Slogan Contest Time Limit Extended

The Commercial Section of the American Gas Association announces the time limit on the Home Service Slogan Contest is extended to May 30th. A $25.00 prize is being offered for the slogan that best expresses the value of home service work to the industry, community and the consumer.

ELECT SAMUEL T. BODINE

Public Service Move Viewed as Step Toward Merger

At the annual meeting of the Public Service Corporation of New Jersey, Samuel T. Bodine, president of the United Gas Improvement Company, was elected a director to succeed Lewis Lillie. Other directors were re-elected. Mr. Bodine's election aroused much interest in public utility circles here. Some viewed it as a move toward the possible consolidation of these companies.

It has been known that Mr. Bodine was a substantial stockholder in Public Service, and to many this affiliation has been interpreted as forecasting a large-scale merger, which, if effected, would constitute one of the biggest gas and electric combinations in the eastern part of the country.

Contracts Awarded

The Western Gas Construction Company of Fort Wayne, Indiana, has been awarded the contract by the Interstate Public Service Company of Bedford, Indiana, to increase the holder capacity at that place. The work will consist of providing a new outer lift to their present 50,000 cu. ft. single lift holder. The erection of this outer lift is to be carried on without interrupting the service at any time.

The Consumers Power Company of Pontiac has recently awarded a contract to the Improved Equipment Company of 24 State street, New York City, to furnish and install eighteen (18) ovens of the "Improved" horizontal type.

This installation will be the fifth at the Pontiac works and when completed will make a total of sixty (60) ovens installed by this company for the Pontiac service.

The new ovens will be practically of the same design as the previous installations, but will have a number of added improvements over the earlier units.

In connection with the oven installation, a new coke pusher, new hot coke car and an oven coal charging car are to be furnished.

Contemplations regarding these machines are, that the coke pusher will be of the single-spotting type, requiring to be "spotted" or placed only once for the removal of oven door, pushing of coke, replacement of door and levelling of oven coal charge.

The hot coke car to have a capacity for one oven discharge; this car also will be equipped with oven door handling device.

In the oven coal charging car several features to be incorporated provide for a flexibility of mechanical operation not before possible in this type of machine.

All of the machines will be electrically operated and fitted with trolley-type one-man control.

The Improved Equipment Co. will furnish these machines.

A few of the contracts recently awarded to the Improved Equipment Co. for bench work and consisting of new units and refillings for horizontal stop-end 6's, through 6's and 9's, also inclined 9's, are as follows: For the Pub. Service Co. of Denver, Colo.; Portland Electric Power Co., Salem, Ore.; Athens Gas Light & Fuel Co., Athens, Ga.; Colorado Springs Light, Heat & Power Co., Colo. Springs, Colo.; Portsmouth Gas Co., Portsmouth, N. H.; Lebanon Gas & Fuel Co., Lebanon, Pa.; Central Maine Power Co., Rockland, Me.; Spokane Gas & Fuel Co., Spokane, Wash.; Citizens Gas Co., Hannibal, Mo.; Pueblo Gas & Fuel Co., Pueblo, Colo.; Ohio Public Service Co., Warren, Ohio; Pacific Power & Light Co., Walla Walla and Yakima, Wash., and Pendleton, Ore.; United Gas Improvement Co., Philadelphia, Pa.; Hattiesburg Traction Co., Hattiesburg, Miss.; Central Union Gas Co., New York City; Bristol Gas & Electric Co., Bristol, Tenn.

A complete coal gas plant of the horizontal oven type, having an initial daily capacity of 500,000 cubic feet and built for the Danbury and Bethel Gas & Electric Co. of Danbury, Conn., by the Improved Equipment Co., has just recently been put into service.

New Gas Plant for Detroit

A new gas plant for greater Detroit, the first unit to cost about $2,500,000, is being built on the River Rouge in Ecorse Township for the River Rouge Company, subsidiary of the American Light and Traction Company. The plant, according to company officials, will have a capacity of 15,000,000 cubic feet of gas a day.

Michigan Utility Stockholders Increased

Ann Arbor, Mich.—Stockholders in gas and electric utility companies have more than doubled in number since 1918, according to results of a survey received here by the public utility information bureau.

Increase in stockholders since January 1, 1918, was 1,361,279, the report stated. That year there were 1,250,000 investors in common and preferred stocks of gas and electric companies as compared with a total of 1,283,511 in all other industries for which statistics were available, including railroads. Today there are 2,611,279, as compared with 2,400,900 in all other industries.

Today 75,000 more utility employees own stock in their companies than in 1918, while 815,955 more customers have become partners of the public services in the past eight years.

Associated Gas Has New Issue

A new issue of 30,000 shares of Associated Gas and Electric Company 6 per cent cumulative preferred stock has been offered for public subscription.

Since the beginning of the current year the company has acquired properties in New York having gross earnings of approximately $1,000,000 annually. Proceeds from the sale of the preferred stock will be used in part to pay the cost of those properties.

Among the companies taken over in 1924 were Portsmouth Power Company, Middlesex Electric, Depew & Lancaster, Champlain Electric and Harlan Valley Utilities. January earnings, which have just been announced, are the first to reflect the additional income resulting from the many new companies acquired in 1924. Gross earnings during that month were $926,313, or almost more than three times those of the same month in 1924, when $321,882 gross was reported.

Alice M. Lough to Direct Home Economics Department

The New York & Richmond Gas Company takes pleasure in announcing the engagement of Miss Alice M. Lough as director of its newly-established Home Economics department.

Ruud Mfg. Co. Issues New Catalog

The Ruud Manufacturing Company, Pittsburgh, Pa., has just issued a new catalog covering their entire line of gas water heaters. In this catalog they have given special attention to the details of construction, illustrating each type of heater, with a sectional view showing every particular of the construction inside the case. One of the features of the Ruud line is their dual fuel controlled mechanism. A detailed cut of this mechanism is shown in the catalog with complete explanation of how it operates.

In addition to this kind of matter the catalog contains a number of tables showing capacities of the various sizes and types, with detailed drawings showing installation of Ruud heaters in homes and apartments, and a great deal of other information of value for reference purposes. The firm number of this catalog is 860, and we are advised that they will be glad to send a copy of same to any one on request.

Gas Appliance Sales in P. G. & E. Territory

The sales department of the Pacific Gas and Electric Company reports the following gas appliance sales in the company's territory during 1923 and 1924. All sales were made by regular dealers, the company not being engaged in merchandising. According to the dealers' reports the total money sales volume was $5,862,000, an increase of 24.8 per cent over 1923. During 1924 the number of gas consumers in this territory increased by 21,706, and the gas sales per consumer increased from 39,800 cu. ft. to 42,400 cu. ft.

	1923	1924
Ranges, Cabinet...	21,704	24,596
" Combination..	5,087	5,491
Water Heaters—		
" Tank	13,308	16,910
" Storage	3,589	4,750
" Instantaneous	9,418	11,889
Boilers	581	413
Warm Air Furnaces	2,942	4,950
Floor Furnaces...	1,657	1,852
Individ. Radiators..	5,931	5,944
Radiant Heaters...	6,191	5,547

Gas Company Checks Up on Gas Furnaces

Portland, Oregon.—The Portland Gas & Coke Co., Portland, Oregon, has started a systematic check-up on all gas furnaces in the city as some trouble has developed recently with carbon monoxide where the chimney had become stopped up through faulty construction. A dozen inspectors were assigned to the task and, although by this time several thousand furnaces have been examined, no dangerous conditions were found. Eventually some of the conditions found would have become dangerous, but what shortcomings were discovered could readily be detected and improved upon.

The necessary information is being compiled on which to base a model ordinance for the regulation of the installation of gas appliances and this data will be submitted by the company to the city authorities.

The "Radiantfire" Booth at the Brooklyn Food Show, March 9 to 21, which attracted much attention from the thousands of visitors

STATEMENT OF THE OWNERSHIP, MANAGEMENT, CIRCULATION, ETC., REQUIRED BY THE ACT OF CONGRESS OF AUGUST 24, 1912, OF AMERICAN GAS JOURNAL.

Published weekly at New York, N. Y., for April 1, 1925.

State of New York, County of New York, ss.: Before me, a notary public in and for the State and county aforesaid, personally appeared Stanton G. Krake, who, having been duly sworn according to law, deposes and says that he is the Manager of the American Gas Journal and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management, etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, embodied in section 411, Postal Laws and regulations, printed on the reverse of this form, to wit:

1. That the names and addresses of the publisher, editor, managing editor, and business managers are:

Name of Publisher—American Gas Light Journal, Inc., 53 Park Place, New York. Editor—Ismar Ginsberg, Far Rockaway, N. Y.; Managing Editor—Stanton G. Krake, Brooklyn, N. Y.; Business Manager—Stanton G. Krake, Brooklyn, N. Y.

2. That the owners are: American Gas Light Journal, Inc., 53 Park Place, New York, N. Y.; Elbert P. Callender, Los Angeles, Calif.; Stanton G. Krake, Brooklyn, N. Y.

3. That the known bondholders, mortgagees, and other security holders owning or holding 1 per cent or more of total amount of bonds, mortgages, or other securities are: None.

4. That the two paragraphs next above, giving the names of the owners, stockholders, and security holders, if any, contain not only the list of stockholders and security holders as they appear upon the books of the company but also, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting, is given; also that the said two paragraphs contain statements embracing affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner; and this affiant has no reason to believe that any other person, association, or corporation has any interest direct or indirect in the said stock, bonds, or other securities than as so stated by him.

STANTON G. KRAKE,
Business Manager.

Sworn to and subscribed before me this 4th day of April, 1925.

ADELAIDE DE LOCA,
(Seal)